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## **ABSTRACT**

The present invention concerns compositions that modulate palmitoyl protein thioesterase 1 (PPT1) activity, as well as methods for using these compositions as a therapeutic treatment to inhibit a cancer cell, such as by promoting apoptosis of the cancer cell. It is contemplated that these compositions may be used in conjunction with other anti-cancer therapies such as chemotherapeutic agents. PPT1 modulators include polypeptide and peptides that competitively interact with PPT1, as well as PPT1 antisense and ribozyme constructs that prevent the expression of PPT1. Furthermore, the present invention also covers methods of screening for PPT1 modulators, as well as for levels of PPT1 amount or activity as a diagnostic tool.